Red Rover

NAVY DAY
St. Louis Council - 30 Oct 1964
St. Louis, Missouri

Cape Girardeau Council - 29 Oct 1964
Cape Girardeau, Missouri

In the annals of the Navy Medical Department the City of Saint Louis, connected to the sea by the great Mississippi waterway, holds a unique place of distinction.

In March 1862 a side-wheel river steamer, Red Rover, built at Cape Girardeau had made her way up the Mississippi River as far as Island Number 10 where her floating battery participated in the naval bombardment of the Western Gunboat Flotilla and Mortar Fleet of the Union Army. The Red Rover was damaged during the engagement and moored on the opposite side of the island where she was captured by the Federal gunboat, Mound City, when the island fell into Union hands in 1862. Temporary repairs were made on the Red Rover to permit her passage up river to Saint Louis, Missouri where she was fitted out as a floating summer hospital for the Western Flotilla. Captain McDaniel was the first Commanding Officer of the Red Rover and Doctor George H. Bixby became the first Senior Medical Officer.

On 10 June 1862 the Red Rover reported to Commander, Western Flotilla for duty as the very first naval hospital ship. The enthusiasm at the time, in having shipboard hospital facilities, was indicated by a letter written to flag officer, Andrew H. Foote:

> "I wish you could see our hospital boat, the Red Rover, with all her comforts for the sick and disabled seamen. She is decided to be the most complete thing of the kind that ever floated and is in every way a decided success. The Western Sanitary Association gave us in cost of articles $3500. The ice box of the steamer holds 300 tons. She has

bathrooms, laundry, elevator for the sick from the lower to the upper deck, amputating room, nine different water-closets, gauze blinds to the windows to keep the cinders and smoke from annoying the sick, two separate kitchens for sick and well, a regular corps of nurses, and two water closets on every deck."

From that date in June 1862, the USS RED ROVER steamed up and down the Mississippi River in the thick of fighting everywhere caring for the sick and injured. According to the medical journal of the hospital ship, by the end of the year 1862, she had admitted 374 patients and her expenses for the year were listed as $3,462.

At the time of her decommissioning in November 1865, the RED ROVER had admitted 2,450 patients and it is agreed that her well-equipped medical spaces, cool wards, ice boxes, diet kitchens and expert medical staff were a Godsend to the fleet.

As Surgeon General of the Navy, I represent that section of the naval establishment which has as its primary responsibility the health and physical fitness of Navy and Marine Corps personnel. This is a basic and highly simplified description of the mission of the Navy Medical Department and, as I will point out later, becomes quite complex and complicated in its accomplishment.

I suspect that I need to spend little time in convincing the members of this Council of the Navy League, gathered as we are tonight to celebrate Navy Day, on the importance of a strong and dependable Navy and Marine Corps. Through the years the Navy League of the United States, with a membership of responsible and

dedicated citizens, has provided effective civilian support for the vital contribution that a strong Navy and Marine Corps team can make to the defense of this country and to strengthen our foreign policy in areas where militant opposition occurs.

Innumerable observations have been made throughout the years by responsible and knowledgeable persons regarding control of the seas. In June 1963 our late Commander-in-Chief, while observing a demonstration of seapower aboard the USS KITTY HAWK, made the following comment in reference to the Cuban crisis:

> "Events of October 1962 indicated as they had all through history that control of the seas means security. Control of the seas can mean peace. Control of the seas can mean victory. The United States must control the seas if it is to protect our security."

Some years before, Winston Churchill in referring to the battle of the Atlantic made the following observation:

> "The battle of the Atlantic was the dominating factor all through the war. Never for one moment could we forget that everything happening elsewhere, on land, at sea, or in the air, depended ultimately on its out come, and amid all other cares we viewed its changing fortunes day by day with hope or apprehension."

However, with the Medical Corps device on my sleeve, I am sure that you ladies and gentlemen do not expect from me a convincing presentation on the importance in world affairs of seapower as provided by the United States Navy and Marine Corps. I have taken the

liberty of making these comments because, for the past 35 years, I have had the privilege in one way or another of making a contribution, large or small, to what Admiral Arleigh Burke repeatedly referred to as "This wonderful Navy of ours."

Every Chief of Naval Operations within my memory has, at one time or another, made the statement that despite the rapidly expanding technical knowledge and the advent of highly sophisticated equipment and weapons systems, a healthy well motivated, and properly trained officer or man was still the greatest and most vital asset to the Navy. I have heard Admiral McDonald, our present Chief of Naval Operations ask repeatedly, during briefings on new technically complicated and highly sophisticated systems which are under consideration for addition to the fleet, the requirements or the impact that these developments would have on the training and utilization of Navy personnel.

If we accept that gadgetry and automation have not yet replaced a skillful and well trained man, but in some cases have served only to create an increasing requirement for skill and knowledge, then I feel sincerely that those of us who constitute the Navy Medical Department and whose primary mission is the selection and maintenance of this valuable asset may rightly feel that we are making a valuable and, perhaps vital, contribution to the strength and stature of our great Navy.

With this brief prologue by a medical officer who appears to be trying to convince a Council of the Navy League of the importance of seapower and a strong United States Navy, I think it would be good judgment on my part to proceed to the areas of which I am most

familiar - the human machine. In collecting my thoughts, my greatest problem at this time is how to present to you good people the medical challenge of today in the short time we have together.

Some of you perhaps have a son or daughter in military service at this very time and you are, understandably, concerned in regard to the measures that are taken to protect or adjust the individual to military hazards and to the quality and the availability of medical care in the event of injury or illness. This is a reflection of the premium placed on human life in these United States. There are innumerable instances, both during war and in peace, which illustrate the sincere concern of those in responsible positions regarding the life of a single serviceman. An inspiring example of this occurred recently at one of our advanced Antarctica bases - in this particular instance, McMurdo Station.

During the Antarctic winter which begins in late April these advanced bases (some 2,000 miles south of Christchurch, New Zealand) are wintered in and completely isolated from the outside world except through radio communication. Severe winter conditions including winds up to 100 knots, poor visibility and temperatures below 60° Farenheit make sea or air contact virtually impossible.

However, on 20 June 1964, a message was received from McMurdo Station to the effect that an enlisted man had sustained severe injuries in a fall at the local firehouse. These injuries consisted of a severe cerebral concussion, a fracture of the spine with compression of the spinal cord, and paralysis. The patient's wife

resided at Port Hueneme, California was to be notified. This accident occurred at the height of the Antarctica winter at a small base 2,000 miles from the nearest civilization. Within the next twenty-four hours, it became apparent to the young medical officer stationed at McMurdo that his patient would require medical care beyond the capabilities of the local station if his life was to be spared. When this information was received by the Commander, Naval Support Forces, Antarctica a decision was necessary. The decision was reached quickly and the wheels of naval rescue and evacuation were set into motion.

At 10:00 AM, Monday, June 22nd, Air Development Squadron Six was alerted for a possible mid-winter air evacuation mission to Williams Field, McMurdo Station, Antarctica. I suspect that many eyes popped upon receipt of this alert since no plane or ship had ever even attempted to reach any of the advanced Antarctica bases during the six months winter season. At the time an LC-130F aircraft was immediately available and another was enroute to Quonset Point from the Azores. By working around the clock, additional fuel tanks were installed and mechanical adjustments were made. At noon on 23 June, these two aircraft departed for Andrews Air Force Base, Washington, D. C. where a medical team consisting of a fully qualified surgeon and an anesthesiologist from the naval hospital at Bethesda, Maryland were picked up as the medical team to accompany the aircraft to McMurdo Base. With double crews and pre-arranged servicing at all stops along the way, communications were established with our base at Christchurch, New Zealand about 500 miles out and careful planning regarding the details and logistics of the flight to McMurdo were completed in order to conserve valuable time. Upon

arrival at Christchurch, communications were established with McMurdo so that information on weather, skiways and lighting facilities could be received. Evaluation of the many factors affecting the flight indicated the operation could proceed and it was decided the flight would depart at noon, local time, 25 June. The aircraft was fueled and inspected by the relief crews assigned to the mission. The evacuation crew was issued the necessary Antarctica and survival clothing and equipment and then all crew members turned in for a much needed 10 hour rest period before beginning this historic flight into the Antarctica darkness to bring necessary medical care and evacuate a seriously injured Navy man. Take-off was made on schedule with 68,000 pounds of fuel, 129 pounds of mail and several crates of fresh fruit for delivery to the men at McMurdo Station. The fruit was a gift from the Salvation Army Unit at Christchurch, New Zealand.

The entire base at McMurdo bristled with activity around the clock when word was received that an attempt was to be made to evacuate the injured Navy man. The snow on the runway was tamped, barrels of oil were distributed at five hundred foot intervals to act as runway lights, a helicopter was broken out of storage for movement of the patient the four miles from the sick bay to the landing area and everyone prayed for the one remaining ingredient to make this historic event possible - good weather. It would appear that divine Providence held back the storms because the burning fuel oil barrels could be seen when the mercy plane was within 20 miles of the landing area and the landing was made without incident.

After careful examination by the medical officer, the patient was placed in a special striker frame and transported by helicopter to the landing area and placed aboard the evacuation plane for the flight back to Christchurch. The landing here was uneventful and the patient was transferred to a local hospital for specialized care until he could be safely transferred to the U.S. Naval Hospital, Oakland, California where, today, he is receiving treatment.

Doctor McClard, the surgeon, and Doctor Millington, the anesthesiologist, continue their duties at the modern and well equipped naval hospital at Bethesda under conditions quite different than that experienced on this historic flight into the Antarctica darkness to provide urgent medical care for a single patient which was the purpose of this magnificent effort.

There is no question that the fantastic and almost unbelievable technological developments during and since World War II have placed unusual demands on the life-support sciences. The so-called 'hostile environment' which has faced military operations for centuries has been complicated by modern ships and weapons. However, in many instances, the application of bio-medical and bio-engineering knowledge gained through intensive study of the hostile environment has resulted in protective or corrective measures which have considerably reduced or even eliminated the harmful effects to life and physical well being.

The successful performance of man in the environment aloft requires that he be given physiological and mechanical aids and that he be well indoctrinated in their use. The Navy's traditionally

unique ability to support man in confined and isolated spaces against strange and hostile environments is a major factor in our Nation's progress to "conquer" space. The integration of the physical, engineering and biological sciences in aeronautical and space technologies has led to a better understanding of human physiology and psychology at high altitudes and supersonic speeds. This has resulted in the development of mechanical devices which enable man to function efficiently, comfortably and safely under trying environmental conditions.

Some months ago, I escorted members of the Department of Defense Civilian Health and Medical Advisory Council (a group of outstanding civilian physicians and surgeons) to the USS INDEPENDENCE - one of our large attack carriers. At the time she was conducting carrier qualifications of a new air group about 100 miles off the coast of Virginia and the flight deck operations were almost unbelieveable. Heavy fighter and attack bombers are catapulted and retrieved with clock-like precision. Included in the aircraft mix were large numbers of planes manufactured by a major aircraft corporation located right here in Saint Louis. The coordination required of the pilot, particularly during the last few seconds of the approach, was remarkable. Plane after plane would hook the arresting gear and decelerate to an abrupt stop within a space of several yards. The flight deck crew performed like a well trained football team to disengage the plane and clear the deck for the next plane.

Actually, there is nothing in space beyond the atmosphere which can be used to support life. The notable success of manned-space

exploration, to date, is due in no small measure to the intensive bio-medical research which identified the nature and extent of the challenging environment occurring during launch, flight and re-entry. Highly instrumented equipment and knowledgeable scientists at numerous medical laboratories identified the physiological effects of the physical stresses and environmental conditions in space exploration. By means of early animal studies and, later, astronaut training in highly instrumented laboratory devices the physiological effects of increased gravitational forces during launch and re-entry and the effects of the absence of gravity and the weightless state during flight were studied and determined. Measures, such as the reclining contoured couch, were designed to combat these. The control of the atmosphere within the small space capsule with the supply of oxygen and removal of moisture and carbon dioxide was accomplished.

It was early recognized that the environment in a long submerging nuclear propelled submarine could be a serious physical threat. The nuclear propelled submarine, except for the absence of severe gravitational forces, presented a similar bio-medical challenge in atmosphere control and the physical and psychological effects of prolonged isolation from the normal sensory stimuli which occurs to those living on the surface of the earth. The power plant of a nuclear propelled submarine has been so carefully engineered that the total body radiation of members of the crew is actually less during prolonged patrol because of the absence of cosmic radiation.

We have a Field Medical Research Laboratory at the Marine Corps Base at Camp Lejeune which for years has been interested in such areas of vital concern to the Marine Corps, such as, the development of modern body armor, protective clothing, acclimatization, field sanitation, the control of infectious diseases and medical support of amphibious operations.

The Navy Medical Department operates three research units specifically interested in a study and control measures of infectious diseases. These are located at the Naval Training Center, Great Lakes, at Taipei, Taiwan and at Cairo, Egypt. The Naval Medical Research Institute and the Navy Toxicology Laboratory at the National Naval Medical Center, Bethesda, Maryland are equipped and staffed with scientists capable of studying life-support requirements in ships and weapons systems that are currently on the drawing boards. The indicated bio-medical research is conducted concurrently with the development of the hardware in order that the physiological challenges may be identified and acceptable and effective life-support systems developed.

The staff of the Submarine Medical Center at New London, Connecticut, for the past several months, has been conducting with the Office of Naval Research and the Bureau of Ships an underwater operation called "SEA LAB I" off the Coast of Bermuda. In this experiment, men have remained continuously for a period of ten days on the floor of the ocean at a depth of 192 feet, in a submerged habitation providing many of the elements of home. These men were able to sleep, eat, and relax within the sustained pressure at this

depth and at prescribed times leave this habitation with suitable oxygen breathing equipment to work and make observations on the floor of the ocean returning to their underwater home. The impact of this experiment on diving operations is tremendous. No longer will hours be required for a diver descending and surfacing in order to perform useful tasks on the ocean floor for relatively brief periods of time.

For the past five years the U. S. Naval Hospital at Chelsea, Massachusetts has been working with the Protein Foundation to develop a method of blood preservation which would permit storage of blood for prolonged periods with reconstitution for safe and effective transfusion. The importance of this project is apparent when we recall that whole blood, under present storage conditions, must be used within 21 days. A satisfactory method of prolonged storage of blood would permit stock-piling in major hospitals to meet mass disaster situations and in time of national emergency or war and significantly reduce the logistic problem of blood supply in the management of casualties.

To date, over 3,000 transfusions have been performed with stored blood and we are hopeful that, within the near future, the remaining technical problems will be solved.